

USSR

UDC 621.165.013

GOKHSHEYN, D.P., TAUBMAN, YE. I., and POTONTSEV, V.G.
"Effect of the Working Fluid on the Thermodynamic Effectiveness of the Rankine Cycle"

Energ. Mashinostroyeniye. Resp. Mezhd. Temat. Nauch.-Tekhn. Sb. [Power Machinebuilding. Republic Interdepartmental Thematic Scientific-Technical Collection], 1972, Vol 14, pp 70-73 (from Referativnyy Zhurnal, No 9, Sep 72. 49. Turbostroyeniye. Single Issue. Abstract No 9.49.12)

Translation: The thermal efficiency dependence of the cycle on the parameter characterizing the properties of the working fluid is analyzed. The efficiency gain of different working fluids is evaluated (Hg, K, Na, H₂O, NH₃, Cl₂, F-30, F-21) and also the maximum range of the thermal efficiency change of the Rankine Cycle at the expense of changing properties of the working fluid. Two illustr., seven biblio. refs.

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USSR

FAYN, S. B. and ~~TAUGLIKH, G. L.~~

UDC: 51:621:391

"Some Problems of the Structure of a System of Residual Classes in Square Fields"

Tr. Vychisl. tsentra. AN GruzSSR (Transactions of the Computer Center, Academy of Sciences of the Georgian SSR) 11, No 1, 1972, pp 151-171 (from RZh--Matematika, No 8, 1972, Abstract No 8V501)

Translation: The authors examine a system of residual classes in square fields and verify the characteristics of sequences of the form $A = (\alpha_1, \alpha_2, \dots, \alpha_{i-1}, s_j, \alpha_{i+1}, \dots, \alpha_n)$, where s_j runs through a system of absolutely least residues, by a simple modulus m_i , when j runs through the values $1, 2, \dots, |R(m_i)|$, $(R(m_i))$ is the norm of the number m_i , and α_k is the figure to the base m_k representing the number A in the system of residual classes).

V. Dyn'kin

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USSR

FAYN, S. B. and ~~TAUGLIKH, G. I.~~

UDC: 51:621:391

"Correcting Error Groups in Binary-Residual Codes"

Tr. Vychisl. tsentra. AN GruzSSR (Transactions of the Computer Center, Academy of Sciences of the Georgian SSR) 11, No 1, 1972, pp 172-185 (from RZh--Matematika, No 8, 1972, Abstract No 8V502)

Translation: The authors indicate the possibility of using the redundancy of binary codes in a system of residual classes (SRC). It is asserted that uniform requirements can be presented for the reliability of the binary elements by using the longest SRC digit as a guide. The actual and polynomial SRC are compared, and the correcting possibilities of polynomial codes are investigated.

V. Dyn'kin

USSR

FAYN, S. B., TAUGLIKH, G. L.

UDC: 51:621.391

"Some Questions of the Structure of the System of Residual
Classes in Quadratic Fields"

Tr. Vychisl. tsentra AN GruzSSR (Works of the Computing Center
of the Academy of Sciences of the Georgian SSR), 1972, 11, No
1 pp 151-171 (from RZh-Kibernetika, No 8, Aug 72, Abstract
No 8V501)

Translation: The paper deals with the system of residual
classes in quadratic fields, and verifies the properties of
sequences of the form

$$A = (a_1, a_2, \dots, a_{l-1}, s_j, a_{l+1}, \dots, a_n),$$

where s_j runs through the system of absolutely least residues
with respect to a simple modulus of m_l when j runs through
the values $1, 2, \dots, |R(m_l)|$. $R(m_l)$ is the norm of the number m_l , a_k is
the figure to the base m_k representing the number A in the
system of residual classes. V. Dyn'kin.

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USSR

FAYN, S. B., ~~TAUGLIKH, G. L.~~

UDC: 51:621.391

"Correction of Group Errors in Binary Residual Codes"

Tr. Vychisl. tsentra AN GruzSSR (Works of the Computing Center of the Academy of Sciences of the Georgian SSR), 1972, 11, No 1, pp 172-185 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V502)

Translation: It is pointed out that better use can be made of the redundancy of binary codes in the system of residual classes. It is stated that homogeneous requirements can be made on the reliability of binary elements by orientation on the rank of the system of residual classes of the greatest length. A comparison is drawn between the real and polynomial systems of residual classes, and the correcting possibilities of polynomial codes are studied. V. Dyn'kin.

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USSR

TAUGLIKHI, G. I.

"One Structure of Weights of a Polynomial Code Correcting Multiple Errors"

Ob odnoy Konstruktsii Vesov Polinomial'nogo Koda, Ispravlyayushchego
Mnogokratnye Oshibki [English Version Above], Moscow, 1971, 15 pages (Trans-
lated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V486
Dep by the author).

Translation: A polynomial weight code is constructed, similar to the number
code of Varshamov and Tenengol'ts. It consists of a set of n -digit sequences

$$(\alpha_1(x), \alpha_2(x), \dots, \alpha_n(x)),$$

satisfying the relationship

$$\sum_{i=1}^n \alpha_i(x) \mu_i(x) = a(x),$$

where $\alpha_i(x)$, $\mu_i(x)$ (code weights), $i = 1, \dots, n$, $a(x)$ are polynomials with
coefficients from field $GF(p)$ (p is a symbol number). A method is presented

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TAUGLIKII, G. L., Ob odnoy Konstruktsii Vesov Polinomial'nogo Koda, Ispravlyayushchego Mnogokratnye Oshibki, Moscow, 1971, 15 pages.

of constructing weights of a code correcting $m \geq 2$ errors (an error refers to any distortion occurring in a digit of the code sequence).

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- 15 -

1/3 038 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ELECTROPHYSICAL AND PHOTOELECTRIC PROPERTIES OF THIN FILM SYSTEMS
OF TETRATHIOTETRACENE -U-
AUTHOR--(02)-SILINS, E., TAURE, L.

COUNTRY OF INFO--USSR

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18-27

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PHOTOELECTRIC EFFECT, TIN OXIDE, LEAD, GOLD, SILVER, ALUMINUM, METAL
DEPOSITION, ELECTRODE, EXCITED STATE

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2/3 038

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119563

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LAYERED THIN FILM SYSTEMS OF TETRATHIOTETRACENE (I) INVESTIGATED WERE REPRESENTED BY THE FOLLOWING SPECIMENS: SNO SUB2 (I)PB, AU(I)AL, AU(I)AU, AND AL(I)AL. THE SPECIMENS WERE PREPD BY VACUUM DEPOSITION. TO PREP. THE SNO SUB2 (I)PB CELL, A LAYER OF I WAS DEPOSITED ON A LAYER OF SNO SUB2 ON A GLASS PLATE, FOLLOWED BY DEPOSITING THE TOP PB ELECTRODE. TO PREP. THE AU(I)AL CELL, A QUARTZ PLATE WAS FITTED SUCCESSIVELY WITH A SEMI TRANSPARENT AU FILM (SERVING AS THE BOTTOM ELECTRODE), 3 LAYERS OF DIFFERENT THICKNESSES (0.2-1.1 MU) OF I, AND TOP SEMI TRANSPARENT AL ELECTRODES (AREA 5-10 MM PRIME2). FOR BOTH AU(I)AL AND SNO SUB2 (I)PB SPECIMENS, NONSYM. NONLINEAR CURRENT APPLIED VOLTAGE (U SUBO) CHARACTERISTICS OF THE DARK COND. WERE OBTAINED. THE POS. DIRECTION OF CURRENT FLOW CORRESPONDED TO NEG. POLARITY OF THE TOP ELECTRODE IN BOTH CASES. THE POS. C.D. WAS 10 PRIME NEGATIVE4-10 PRIME NEGATIVE3 A-CM PRIME2 AT U SUBO EQUALS 3 V. A PHOTOCURRENT AND A PHOTOEMF. WERE ALSO OBSD.; THE PHOTOEMF. HAD ITS NEG. POLE ALWAYS AT THE TOP ELECTRODE INDEPENDENTLY OF THE DIRECTION OF ILLUMINATION (THROUGH THE BOTTOM OR TOP ELECTRODE). ALSO, THE SYM. METAL(I)METAL SPECIMENS EXHIBITED A LOW PHOTOEMF. THE RECTIFYING EFFECT AND THE PHOTOELEC. PROPERTIES WERE STUDIED USING MAINLY THE AU(I)AL SPECIMENS. THE POS. DIRECTION CURRENT (I SUBR)-U SUBO DEPENDENCE INDICATES BY ITS SHAPE THAT THE RECTIFYING EFFECT IS GOVERNED BY THE SO CALLED CONTACT BARRIER MECHANISM (FORMATION OF A NEG. LAYER ON THE METAL-ORG. COMPD. CONTACT).

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UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0119563

ABSTRACT/EXTRACT--THE ENERGY OF ACTIVATION FOR DARK COND. IN THE POS. DIRECTION (E_{SUBR}) FO, THE AU(I)AL SPECIMENS DROPPED ON DECREASING U_{SUBO} , WHEREAS THE ENERGY FOR THE NEG. DIRECTION REMAINED CONST. I_{SUBR} FOLLOWS THE RELATION I_{SUBR} EQUALS $A \exp(\text{MINUS } E_{SUBR}-KT)$, WHERE T IS THE ABS. TEMP., AND A AND K ARE CONSTS. IN THE NEG. DIRECTION, A SHARP INCREASE IN REVERSE CURRENT (RESEMBLING A NEG. LAYER BREAKDOWN OF ITS KIND) WAS OBSD. AT COMPARATIVELY LOW U_{SUBO} VALUES (GREATER THAN 2V). THE PHOTOEMF. OF THE AU(I)AL SPECIMENS ON ILLUMINATION THROUGH THE TOP ELECTRODE PLOTTED VS. THE WAVELENGTH OF THE LIGHT APPLIED SHOWED A CORRELATION WITH THE ABSORPTION ELECTRON SPECTRUM OF SOLID STATE I IN THE LONG WAVELENGTH OF THE LGHT APPLIED SHOWED A CORRELATION WITH THE ABSORPTION ELECTRON SPECTRUM OF SOLID STATE I IN THE LONG WAVELENGTH REGION AND DROPPED MONOTONICALLY IN THE LONG WAVELENGTH REGION, WHEREAS THE PHOTOEMF. OBTAINED ON ILLUMINATION THROUGH THE BOTTOM ELECTRODE SHOWED "ANTICORRELATION" SIGNS WHEN COMPARED WITH THE ABSORPTION SPECTRUM IN ITS SHORT WAVELENGTH REGION (THERE WERE MIN. OF PHOTOEMF. AT MAX. OF ABSORPTION). THE DEPENDENCES SHOW THAT THE POTENTIAL BARRIER APPEARS AT THE I TOP ELECTRODE INTERFACE. THE NATURE OF THE POTENTIAL BARRIER IS DISCUSSED. A BAND SCHEME OF A METAL(I)METAL SPECIMEN IN THE TOP ELECTRODE REGION, AN ENERGY SCHEME OF POLAR STATES OF A I CRYSTAL, AND A SCHEME REPRESENTING THE ENERGY LEVELS OF NEUTRAL EXCITED STATES OF A I MOL. ARE PRESENTED. FACILITY: FIZ. ENERG. INST., RIGA, USSR.

UNCLASSIFIED

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USSR

UDC 535.215.1

ALEKSANDROV, S.B., BALODE, D.R., BELKIND, A.I., NEILAND, O.YA., RAYSHUKA, I.K.,
SILIN'SH, E.A., TAURE, L.F.

"Photoelectronic Properties And Energy Structure Of Transbisbindonilen"

V sb. Poluprovodniki i ikh primeneniye v elektrotekh. (Semiconductors And Their
Application To Electrical Engineering--Collection Of Works), No 5, Riga,
"Zinatne," 1971, pp 221-230 (from RZh:Elektronika i yeye primeneniye, No 2, Feb
72, Abstract No 2420)

Translation: The results are discussed of a study by the method of photoconduct-
ivity and photoelectronic emission of the properties of a thin film system of
transbisbindonilen. Possible mechanisms are considered of photoproduction of
charge carriers, and an energy scheme of a molecular crystal of transbisbindonilen
is proposed. 8 ill. 10 ref.

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USSR

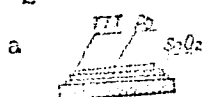
UDC: 535.215.4;535.215.6;541.67

SILINS, E. A. and TAURE, I. (P., Physico-Energetic Institute of the Academy of Sciences of the Latvian SSR (Fiziko-energeticheskiy institut AN Latv. SSR)

"Studying Some of the Electrophysical and Photoelectric Properties of Tetrathio-tetracene Thin Layer Systems"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR: Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 1, 1970, pp 13-27

Abstract: The authors study the volt-ampere characteristic, bulk and contact conductivity activation energy, integral and spectral photoconductivity and photoelectromotive force, and the lux-ampere and lux-photoelectromotive force characteristics of tetrathiotetracene (TTT) thin-layer systems produced by the vacuum deposition method. The TTT preparation used by the authors was synthesized by Ya. F. Freymanis using C. Marschall's and C. Stumm's method. The TTT was purified by multiple recrystallization and subsequent sublimation in a vacuum. Two types of units are studied: $\text{SnO}_2/\text{TTT}/\text{Pb}$ and $\text{Au}/\text{TTT}/\text{Al}$, $\text{Au}/\text{TTT}/\text{Au}$, or $\text{Al}/\text{TTT}/\text{Al}$ (see figure).



All basic electrophysical parameters were measured in a 10^{-5} torr vacuum with

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SILINSH, E. A. and TAURE, L. F., Izvestiya Akademii Nauk Latvyskoy SSR: Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 1, 1970, pp 18-27

some compared to measurement results obtained in air. The SPM-1 monochromatic illuminator was used for measuring the photoelectric characteristic. The Au/TTT/Al and SnO_2 /TTT/Pb thin layer systems exhibit nonsymmetric, nonlinear volt-ampere dark conductivity characteristics. The direction of easy flow corresponds to the positive polarity of the lower electrode (SnO_2 ;Au) and negative polarity corresponds to the upper electrode (Pb;Al). The rectification factor for the given systems is $k=10^2-10^4$. Current density for the direction of easy flow at a voltage potential of $U_0=3\text{V}$ approaches $j_p=10^{-4}-10^{-3}$ amp/cm². The given thin-layer systems exhibit both photocurrent and photo-emf. The photo-emf is always of negative polarity at the upper electrode independent of whether illumination is conducted through the upper or lower electrode of the specimen. Symmetric volt-ampere characteristics were observed only for the Au/TTT/Au systems. The results show that TTT is an excellent model material for studying the effects of contact and surface properties on the dark photoconductivity mechanism of thin-layer, low-molecular organic semiconductors because of its relatively low specific resistance. Type $\text{Al}/\text{TTT}/\text{Al}$ and $\text{SnO}_2/\text{TTT}/\text{Al}$ systems form a surface exhaustion layer under the upper electrode. The primary parameters of this layer are determined. The authors also consider a possible mechanism responsible for the formation of the surface exhaustion layer

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SILENSH, E. A. and TUMBE, L. F., Izvestiya Akademii Nauk Latvyskoy SSR: Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 1, 1970, pp 18-27

and its effect on the photogeneration of the charge carriers. The basic neutral and polar energy states of TTT are estimated. Mechanisms responsible for carrier charge photogeneration in TTT are considered. The authors express their thanks to Ya. F. Freymanis for synthesizing the TTT and D. F. Balode for assisting during the experiment.

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USSR

UDC 621.3.032.35

MARKOVSKII, L. YA., TAUSHKANOVA, L. B., GLADKOVA, V. F., KONDRASHEV, YU. D.

"Interrelation between the Granulometric Composition of Zinc Sulfide-Cadmium Sulfide Luminophores and the Degree of Dispersion of the Original Zinc Sulfide-Cadmium Sulfide"

Leningrad, Russian, Zhurnal prikladnoi khimii, vol 46, No 7, July 73, pp 1430-1434

Abstract: The number of small particles in the luminophore ZnS-CdS (with Ag and NaCl) increased with increasing dispersion of both the ZnS and CdS, while the average grain size increased with decreasing specific volume of the sulfide powders. The ZnS affected the granulometric composition more than did the CdS. Electron micrographs of the 62% ZnS + 38% CdS product calcined at temperatures from 550 to 800°C show the increasing size of the grains with increasing calcination temperature.

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USSR

TAUTS, M. I., SELIVANOVA, T. M., and SEMENENKO, V. Ye., Institute of Plant Physiology imeni K. A. Timiryazev, Academy of Sciences USSR, Moscow

"Interpretation of the Self-Stimulating Effect of Chlorella Growth"

Moscow, Fiziologiya Rasteniy, Vol 18, No 1, Jan/Feb 71, pp 69-77

Abstract: The presence of indolyl-3-acetic acid in the extracellular metabolites of a bacteria-free culture of the thermophilic Chlorella sp. K strain was demonstrated on the basis of chromatographic analysis, determination of R_f of the spots in various solvent systems, fluorescence of the spots in ultraviolet light, color tests, UV spectra, and the effect of the growth regulator on wheat coleoptiles and algae. An unknown biologically active substance (or substances), probably of an indole nature, was also found. It was invariably present on the chromatograms, where it produced a wide range of color reactions. The indole compounds stimulated the growth of both algae and wheat coleoptiles, suggesting that hormones are involved in the processes of intracellular regulation. The physiological significance of the compounds in the activity of unicellular algae was confirmed by their positive response to exogenous indolyl-3-acetic acid.

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USSR

TAUTS, M. I., et al., Fiziologiya Rasteniy, Vol 18, No 1, Jan/Feb 71, pp 69-77

The optimum concentration to stimulate cell division in the culture and to increase the culture's productivity varies with the physiological condition of the culture.

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USSR

UDC 669.295

PERADZE, T. A., TAVADZE, F. N., Academician, Academy of Sciences, Georgian SSR, BLASHCHUK, V. YE., ONOPRIYENKO, L. M., and BOYEVA, G. YE.

"Corrosion Resistance of Titanium Alloys with Elevated Content of Oxygen in Hydrochloric and Sulfuric Acids"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 69, No 1, Jan 73, pp 109-112

Abstract: This work presents a study of the corrosion resistance of AK-3 alloys in hydrochloric and sulfuric acids. Specimens of the alloy were welded by an automatic argon-arc welding device with an infusible tungsten electrode, with subsequent annealing at 800° C for 30 minutes. The base metal and welded joint were tested for corrosion resistance in various concentrations of hydrochloric and sulfuric acids, test time 100 hours. In all cases, the welded joints showed corrosion rates similar to those of the base metal. The alloy Ti + 3% Al is less stable in the electrochemical respect than AK-3. Specimens of AK-3 alloy and its welded joints were also tested for resistance to corrosion cracking under stress in saturated solutions of NH_4Cl and CaCl_2 at the boiling point. Visual inspection and metallographic examination at 300 X magnification showed no cracks in the base metal or the welded seam.

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USSR

UDC 669.26'854'794:620.193.41

TAVADZE, F. N., MIKADZE, O. I., RUDOI, A. P., and HANDZHAGALADZE, S. N.,
Institute of Metallurgy, Academy of Sciences Georgian SSR

"Influence of Lanthanum and Yttrium on Corrosion Resistance of Chromium
in Sulfuric Acid"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1974, pp 28-30

Abstract: This work presents a study of the influence of lanthanum and yttrium on the corrosion resistance of chromium in sulfuric acid at 20 and 100° C. The material used in the study was electrolytically refined chromium containing 0.006% N, 0.004% O, less than 0.04% Si, 0.005% Ni, 0.01% Fe, 0.006% Al, 0.002% S, 0.003% Cu. The content of the rem in the chromium alloys was 0.24-1.48% La, 0.28-2.83% Y. One peculiarity of the process of corrosion of chromium alloys with lanthanum and yttrium in sulfuric acid solutions is that the maximum rate is observed in the initial period of the test, with subsequent stabilization. Lanthanum and yttrium are anodic inclusions and are etched out in sulfuric acid. The structure of the matrix does not influence the corrosion resistance of the alloys of chromium in 50% sulfuric acid, but does in a 30% solution. The introduction of 0.28% Y to chromium activates the chromium, while 0.68% La does not damage its passivity at room temperature.

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USSR

TAVADZE, F. N., Academician, Georgian Academy of Sciences, and POSTNIKOV, V. S., Professor of Physics and Mathematics, and GORDIENKO, L. K., Doctor of Technical Sciences, Resp. Eds.

Analiticheskiye vozmozhnosti metods vnutrennego treniya (The Analytical Possibilities of the Internal Friction Method), Moscow, "Nauka," 1973, 195 pp

Translation of Annotation: Review articles of Soviet and foreign scholars who participated in the symposium devoted to "Analytical Possibilities of the Internal Friction Method" are presented. The symposium was held in Tbilisi in October, 1971. The papers consider problems of research in relaxation processes in solid bodies, interaction between flux defects, phase transformations, superconductive exchanges, the mechanisms of internal friction (damping) and other questions. The collection is intended for researchers and practical metallurgists, specialists in solid state physics, and teachers and students at technical institutions of higher learning.

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TAVADZE, F. N., The Analytical Possibilities of the Internal Friction Method, Moscow, "Nauka," 1973, 195 pp

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USSR

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USSR

UDC 620.17

TAVADZE, E. N., GRIKUROV, G. N., TRANTSEVICH, YA. V., SUKHOTIN, A. M.,
ANTROPOV, N. P., and ROGATSKIY, A. L.

"Estimating the Strength of Materials and Their Welded Joints at Cryogenic
Temperatures by the Method of Testing Contour-Supported Disks for Flexure"

Kiev, Problemy Prochnosti, No 1, Jan 72, pp 109-112

Abstract: A description is given of the design of an attachment for a tensile testing machine for determining the strength of contour-supported disks by bending tests. Results are presented for the testing of basic sheet material and welded seams in the form of disks of the austenite-martensite class (steel of the SN-2A type) at temperatures of -196 and -253°C. The strength values were determined, and a comparative analysis of the obtained results with data concerning the strength of the basic metal and the welded seams was conducted. Study of the disks led to the conclusion that breakdown takes place at their point of contact with the punch in the zone of thermal influence. One table, 3 figures, 4 references.

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USSR

UDC 669.16

~~TAVADZE, E. N.~~, Academician, Georgian Academy of Sciences,
LANCHAVA, M. D., MIROTADZE, Sh. A., Academy of Sciences of
the Georgian SSR, Institute of Metallurgy

"Selecting Heat-Treat Conditions for Iron Castings With Modular
Graphite"

Tbilisi, Soobshcheniya, Akademii Nauk Gruzinskoy SSR, Vol 64,
No 1, Oct 71, pp 121-124

Abstract: In an attempt to determine precisely the heat treatment conditions which give a predetermined microstructure, the authors studied rates of graphitization as a function of temperature and the cross section of castings of metal with the following chemical composition: C--3.3-3.5%, Si--2.4-2.4%, Mn--0.5-0.6%, P0.1-0.15%, S--0.01-0.012%, Mg--0.045-0.055% and the remainder Fe. The kinetics of graphitization was studied at 850, 900 and 950°C. The results show that the rate of graphitization of primary cementite is chiefly a function of temperature. The first stage of graphiti-

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TAVADZE, F. N. et al., Soobshcheniya, AN GSSR, Oct 71, pp 121-124

zation should be done at 920-930°C. A study of the rate of graphitization of secondary cementite showed that wall thickness has an appreciable effect along with temperature and cross section. However, holding for 4-5 hours at 750 and 720°C results in satisfactory microstructure in all cases. Secondary cementite in iron with modular graphite in the cast state with no subsequent heat treatment is rapidly graphitized in contrast to normalized specimens; a reduction in the concentration of carbon and silicon noticeably reduces the rate of graphitization of secondary cementite. Three figures, one table, bibliography of three titles.

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Steels

USSR

UDC 539.67

TAVADZE, F. N., ZOIDZE, N. A., BADZOSHVILI, V. I., METREVELI, V. SH., and
GARIBASHVILI, V. I.

"The Effect of Boron on the Internal Friction and Mechanical Properties of
CONGVR Steel"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction
in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 132-134

Abstract: It is shown that the addition of boron to CONGVR steel leads to an
increase in strength, and reinforces the effect of heat treatment on "heredity."
In samples containing boron, a preliminary deformation at room temperature
increases the strength and yield stress after the α - γ - α transformations.

It is assumed that an increase in mechanical properties is related to the
effect of boron on the formation of steel substructure. Certain recommenda-
tions are given on the practical use of boron for strengthening the effect of
heat treatment on the "heredity" of alloyed steels. 2 figures.

1/1

USSR

UDC 539.67

TAVADZE, F. N., and MIKELADZE, A. G.

"Brittleness and Abnormal Internal Friction in Pure Iron"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka", 1970, pp 56-61

Abstract: Results are presented of an investigation of iron refined by non-crucible zone melting in a hydrogen atmosphere. The temperature dependence of internal friction in pure iron after annealing at more than 650°C, which differs from the curve of a sample annealed at less than 650°C, was studied in a magnetic field. An abnormal drop in damping decrement was observed at about 80°C. The abnormal internal friction is explained by a sharp decrease in the number of defects in the grain volume and appeared as the effect of directed ordering of impurity atoms in a magnetic field. 5 figures, 5 references.

1/1

Acc. Nr.: AP 0101973

Ref. Code: UR0000

USSR

UDC: 669.017:539.219.3
JPRS: 50476

TAVADZE, F. N., ZOIDZE, N. A., BADZOSHVILI, V. I.

"Interaction Between Interstitial Atoms and Dislocations in Chilled Steel"

V sb. Vzaimodeystviye, mezhdn dislokatsiyami i atomami primesey v met. i splavakh
(Interaction between Dislocations and Impurity Atoms in Metals and Alloys--
collection of works), Tula, 1969, 72-76 (from RZh-Metallurgiya, No 1, Jan 70,
Abstract No 11176)

Translation: The authors consider the mechanisms of interaction between carbon atoms and dislocations with the formation of Snoek and Cottrell atmospheres, and also the effect which the tetragonality of martensite has on the characteristics of this interaction. Authors' abstract.

1/1

ED

Reel/Frame
19851941

18

USSR

UDC 581.192+63.3.11

TAVADZE, T. V. and BUDNITSKAYA, Ye. V., Institute of Biochemistry, Academy of Sciences USSR

"Change in the Content of Total Protein and Nitrogen During the Ontogenesis of Wheat Varieties Resistant to Brown Rust Infection and Those Susceptible to It"

Moscow, Prikladnaya Biokhimiya i Mikrobiologiya, Vol 9, No 4, 1973, pp 579-581

Abstract: In a study of change in the content of total protein and nitrogen during the ontogenesis of wheat varieties resistant to brown rust infection and those susceptible to it, it was found that the decrease in the total protein content of susceptible wheat varieties is greater than that of the resistant ones. It was also noted that in all stages of ontogenesis except for the case of 5- and 10-day seedlings, the nitrogen content in the resistant varieties was higher than in the tissues of the susceptible ones. The assumption is drawn that the obtained data are a result of changes in the content of total protein and nitrogen in connection with the resistance of wheat plants to brown rust infection. 2 tables. 8 references.

1/1

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USSR

UDC 619:616.9-097:616.981.42-636.39

IVANOV, M. M., ~~TAVAMAYSHVILI, M. YE.~~, and SKIADCHIKOV, R. V., State Scientific Control Institute of Veterinary Preparations

"Immunomorphological Shifts in Goats Affected With Brucellosis"

Moscow, Veterinariya, No 10, 1971, pp 42-44

Abstract: Vaccination of adult goats and kids 4- to 5-months old with GNKI Brucella abortus 19 strain, Br. abortus 19, or Br. melitensis 2,506 produced morphological changes in the lymph nodes and organs typical of brucellosis. The changes were more pronounced in adults. Injection of immune animals with a virulent strain of Brucella elicited moderate benign cellular reactions in the remote lymph nodes and spleen. In general, the level and intensity of the pathomorphological changes varied with the level of immunity created by the vaccine.

1/1

1/2 005 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FIRST INDUSTRIAL TEST OF THE CEMENTING OF A WELL BY ADDING
PETROLEUM TO THE CEMENT SLURRY -U-
AUTHOR--(05)--MAKHMUDOV, M.N., ZHURAVLEV, G.I., SHVARTS, YA.A., SIMONENKO,
I.D., TAVANETS, A.I.
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(3), 19-24

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, -PETROLEUM EXTRACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1212

STEP NO--UR/0152/70/013/003/0019/0024

CIRC ACCESSION NO--AT0133209

UNCLASSIFIED

2/2 005

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133209

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CEMENT SLURRY MIXED WITH
1.5PERCENT PETROLEUM AND 0.35PERCENT TARTARIC ACID BASED ON DRY CEMENT
GAVE SUFFICIENTLY STRONG STONE. THE PUMPABILITY OF THE CEMENT SLURRY
WAS THUS IMPROVED AND GREATER SPEED OF ITS ASCENDING FLOW PROVIDED.
FACILITY: AZERB. INST. NEFTI KHIM. IM. AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INCREASE IN ATMOSPHERIC DUSTINESS OVER THE USSR -U-

AUTHOR--TAVARTKILADZE, K.A.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 5, PP 42-52

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--AEROSOL, DUST, ATMOSPHERIC POLLUTION, WEATHER STATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0078

STEP NO--UR/0050/70/000/005/0042/0052

CIRC ACCESSION NO--AP0132371

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132371

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM EXAMINED CONCERNS VARIATIONS OF THE TOTAL CONCENTRATION OF AEROSOL PARTICLES IN THE ATMOSPHERE DURING THE LAST SEVERAL DECADES OVER A NUMBER OF STATIONS IN THE USSR. BY MEANS OF THE DATA AVAILABLE ON SOLAR INTEGRAL RADIATION AND OTHER CHARACTERISTICS OF THE ATMOSPHERE, THE ERRORS HAVE BEEN ELIMINATED WHICH FREQUENTLY APPEARED IN CALCULATIONS WHEN USING BOUGER, BEER'S FORMULA. A GENERAL TENDENCY HAS BEEN ESTABLISHED FOR THE RECENT INCREASE IN THE ATMOSPHERIC DUSTINESS THROUGHOUT THE USSR.
FACILITY: ZAKAVKAZSKIY N-I GIDROMETEOROLOGICHESKIY INSTITUT.

UNCLASSIFIED

USSR

UDC 51

YEREMENKO, B. A., VALOVOY, B. N., YARMILKO, V. G., TAVARTKILADZE, YA. N.,
GAKHARIYA, K. T.

"Control Algorithms for the Diffusion Process of Sugar Beet Production"

V sb. Prom. kibernetika, (Industrial Cybernetics -- collection of works), Kiev,
1971, pp 256-260 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V551)

No Abstract

1/1

- 55 -

1/2 011
UNCLASSIFIED
PROCESSING DATE--30OCT70
TITLE--CATALYTIC PROPERTIES OF NATURAL AND ACTIVATED ALUMINUM SILICATES IN
THE DEHYDRATION OF 1,4-BUTANEDIOL -U-
AUTHOR--(03)-ARESHIDZE, KH.I., TAVARTKILADZE, YE.K., CHIVADZE, G.O.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 601-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ALUMINUM SILICATE, DEHYDRATION, BUTANE, ALCOHOL, FURAN,
CATALYST ACTIVITY, BUTADIENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0799
STEP NO--UR/0080/70/043/003/0601/0605
CIRC ACCESSION NO--AP0119706
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119706

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GUMBRIN AND ASKANGLIN CLAYS
CATALYZE THE DEHYDRATION OF 1,4,BUTANEDIOL (I) TO TETRAHYDROFURAN (II)
AT 200-400DEGREES; CATALYST ACTIVITY IS INCREASED BY WASHING WITH HCL.
II IS OBTAINED IN 98PERCENT YIELD OVER HCL WASHED GUMBRIN AT 280DEGREES
AT VOL. RATE 0.3 HR. PRIME NEGATIVE1. GASEOUS PRODUCTS ARE FORMED
LARGER THAN 300DEGREES; AT 350DEGREES 20 WT. PERCENT I IS CONVERTED TO
GAS CONTG. 20.8 WT. PERCENT BUTADIENE. FACILITY: INST. FIZ.
ORG. KHIM. IM. MELIKISHVILI, TBILISI, USSR.

UNCLASSIFIED

Devices

USSR

UDC: 621.317.61

TAVDGIRIDZE, L. N.

"Frequency Properties of a Binary Divider With Inductively Coupled Legs"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 60-63 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A324)

Translation: A binary transformer divider is analyzed by treating it as a special two-conductor line with uniform lengthwise distribution of leakage conductivity with the same direction of the current in the wires and with a uniformly distributed counter-emf induced by a common magnetic flux. The general conclusion of this analysis boils down to the following: leakage currents have practically no effect on the division accuracy of the described divider up to frequencies of the order of 10 MHz. Bibliography of two titles. E. L.

1/1

Acc. Nr: **AF0043694**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 3, pp 975-978

ENERGY LOSSES BY A CHARGED PARTICLE
IN AN ISOTROPIC PLASMA LOCATED
IN AN EXTERNAL HIGH FREQUENCY ELECTRIC FIELD

T. L. Tundgiridze, N. L. Tsintsadze

Polarization losses of energy by a charged particle in an isotropic plasma located in an external u.h.f. electric field is considered. It is shown that in weak u.h.f. electric fields the losses grow quadratically with respect to the u.h.f. field amplitude; in strong u.h.f. fields the losses are much smaller and on this basis suppression of proper Langmuir oscillations can be assessed.

REEL/FRAME
19770098

21

USSR

UDC 539.4

TAVER, Ye. I., RYSKIN, A. N., KOPYLOV, A. K., SIDOROV, N. G., KRICHEVSKIY, Ye. Yu., SUKHOTIN, A. M., ANTROPOV, N. P., ANTONOVSKAYA, E. I., Leningrad

"Strength of Welded Joints in High-Strength Stainless Steels at Cryogenic Temperatures"

Kiev, Problemy Prochnosti, No 6, 1972, pp 93-96.

Abstract: The influence of the geometry of welded seam made by austenitic wire on the strength of welded joints of martensitic stainless steels at cryogenic temperatures is studied. The influence of technological defects (such as under- and overheating) on strength of welded joints of two types of steels at low temperatures is studied. It is established that designers must consider both reduced strength of seam metal under normal conditions and impermissibility of any stress concentrators in the seam zone.

1/1

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USSR

UDC 620.172.251.1:669.14.018.8

BELYAKOVA, K. A., IL'ICHEV, V. YA., STARTSEV, V. I., and TAVER, YE. I., Physico-Technical Institute of Low Temperatures, Academy of Sciences

"Strength and Plasticity of VNS-17 Steel at Low Temperatures"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971 pp 7-9

Abstract: A study was made of the mechanical properties of VNS-17 martensitic aging steel in the delivered state (hot rolled products) and its welded joints at temperatures to -269°C . In the hot-rolled state VNS-17 steel has sufficient plasticity and is insensitive to acute notching at test temperatures from room temperature to -253°C . In structural elements welded without filler metal or with basic composition wire, VNS-17 steel can be used to -196°C . In the presence of an acute notch, the strength of the welded joints at -253°C and -269°C is greater than the strength of the steel at room temperature. The chemical composition of the investigated steel was 0.014% C, 0.08% Mn, 0.17% Si, 10.28% Cr, 9.55% Ni, 0.66% Ti, 0.07% Al, 2.1% Mo, 0.01% Zr, 0.002% B, 0.06% Ca, 0.007% S, and 0.01% P. 1/1

USSR

UDC 620.172.251.1:669.14.018.8

BELYAKOVA, K. A., IL'ICHEV, V. YA., STARTSEV, V. I., and TAVER, YE. I., Physico-Technical Institute of Low Temperatures, Academy of Sciences

"Strength and Plasticity of VNS-17 Steel at Low Temperatures"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 7-9

Abstract: A study was made of the mechanical properties of VNS-17 martensitic aging steel in the delivered state (hot rolled products) and its welded joints at temperatures to -269°C . In the hot-rolled state VNS-17 steel has sufficient plasticity and is insensitive to acute notching at test temperatures from room temperature to -253°C . In structural elements welded without filler metal or with basic composition wire, VNS-17 steel can be used to -196°C . In the presence of an acute notch, the strength of the welded joints at -253°C and -269°C is greater than the strength of the steel at room temperature. The chemical composition of the investigated steel was 0.014% C, 0.08% Mn, 0.17% Si, 10.28% Cr, 9.55% Ni, 0.66% Ti, 0.07% Al, 2.1% Mo, 0.01% Zr, 0.002% B, 0.06% Ca, 0.007% S, and 0.01% P. 1/1

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Materials

USSR

UDC: 621.396.69:621.319.4

AKSENOVA, L. A., MUDROLYUBOVA, L. P., TAVGENA, V. V.

"Effect of Some Technological Factors on the Quality of Stock for Monolithic Capacitors Made From a Ceramic Material Based on a $\text{CaTiO}_3\text{-LaAlO}_3$ Solid Solution"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19) (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V286)

Translation: The paper deals with the conditions which ensure high quality of a pouring slip of ceramic material based on a $\text{CaTiO}_3\text{-LaAlO}_3$ solid solution produced by the method of coprecipitation. An investigation is made into the effect which the degree of compaction during strip rolling and the pressure of tablet molding have on the quality of stock for monolithic capacitors made from this material. Authors' abstract.

1/1

USSR

UDC: 621.315.592

3

MOLIN, V. N., VASIL, O. I., SKRIPKINA, P. A., ASEYEV, A. L.,
PETROSYAN, V. I., STENIN, S. I., and TAVGER, B. A., Institute of
Semiconductor Physics, Novosibirsk

"Connections of the Electrophysical Characteristics and Structure
of Dimension-Quantized InSb Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1447-
1451

Abstract: The purpose of this paper is to establish a connection
between the structure and the electrical characteristics of InSb
films with quantum dimensional effects. In the form of wedges,
the specimens were prepared by pulse sputtering in a vacuum of
10⁻⁵ mm Hg on mica sheets measuring 10x80 mm. The specimens were
given two types of structure by two modes of annealing. A photo-
graph of these structures is reproduced, and curves are plotted
for the mobility as a function of the thickness of the InSb films
for the two structural types and for nonstoichiometric films with
excess Sb, for the mobility as a function of the polycrystalline
film temperature and the textured film temperature. The authors
express their gratitude to E. I. Dagman and L. M. Rodnikova for
their assistance.

1/1

- 118 -

Acc. Nr: **AF0043672**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 2, pp **635-640**

OSCILLATIONS OF ULTRASOUND ABSORPTION BY A THIN PLATE
IN A TRANSVERSE QUANTIZED MAGNETIC FIELD

B. A. Targer, V. A. Margulis

Absorption of ultrasound in a metallic film (thin plate) located in a transverse quantized magnetic field is considered. The effect of the boundaries on the ultrasound wave is taken into account. It is shown that giant absorption oscillations arise just as in the case of a longitudinal field in a massive sample.

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REEL/FRAME
19770076

21 DI

USSR

UDC 539.186:539.188

LEBEDEV, I. V., and TAVINSKIY, P. P.

"Recombination Radiation of an Electron in the Presence of an Intensive Light Wave"

Vestn. Leningr. Un-ta [Herald of Leningrad University] No 2, 1969, pp 29-32
(translated from Referativnyy Zhurnal Fizika, No 6, 1970, Abstract No 6D80
by V. Ob'yedkov)

Translation: The radiation of an electron when it is captured by a positively charged ion in the presence of an intensive light field is analyzed. A closed analytic expressed for the probability of capture of an electron with radiation of one photon of arbitrary frequency ω is produced. The quantum irradiated corresponds to the combined frequency, which depends on the number of quanta of the stimulating field. An evaluation is produced for the probability of radiation of a combined photon in comparison with generation of an ordinary photon ($\omega_0 = \Delta E/\hbar$). It is demonstrated that with certain parameters radiation of the combined frequency becomes more probable than radiation at frequency ω_0 , and, furthermore, values of parameters can be selected for which all radiation practically becomes combination radiation.

1/1

USSR

BOGOLYUBOV, N. N., VLADIMIROV, V. S., and TAVKHELIDZE, A. N.

"Self-Modeling Asymptotic Behavior in Quantum Field Theory, Part I"

Moscow, Teoreticheskaya i Matematicheskaya Fizika, Vol 12, No 1, 1972, pp 3-17

Abstract: This paper is the first part of a series dealing with the theory of highly inelastic processes in the interaction of leptons and nucleons. The authors begin their analysis with a Fourier transform useful in the process of the highly inelastic dispersion of an electron by a nucleon, and they propose a method for investigating the asymptotic behavior of the form factors for that transform on the basis of the general principles of local quantum field theory. They indicate the conditions under which self-modeling behavior of the form factors occurs in the asymptotic region and derive a connection between the nature of the self-modeling and the analysis of the dimensionality. It is asserted that this method can be extended to the general problem of the highly inelastic interactions of leptons and nucleons. The authors express their gratitude to D. I. Blokhintsev, A. A. Logunov, A. A. Markov, V. A. Matveyev, R. M. Muradyan, O. A. Khrustalev, V. P. Shelest, and D. V. Shirokov; they are associated with the V. A. Steklov Mathematical Institute of the Joint Institute for Nuclear Research, USSR Academy of Sciences.

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USSR

UDC 629.78:525.2+525.7

AZAROV, V. L., NOVOZHILOV, V. I., TAVRIZOV, G. A.

"The Possibility of a Unique Determination of the Electron Concentration on the Basis of Base Measurements"

V sb. Mat. metody modelir. v. kosmich. issled. (Mathematical Methods of Modeling in Space Research -- Collection of Works), Moscow, "Nauka", 1971, pp 66-72 (from RZh-62. Issledovaniye kosmicheskogo prostranstva, No. 4, Apr 72, Abstract No. 4.62.258)

Translation: The problem of determining the local electron concentration N_e in the solar corona with the aid of phase measurements is investigated. The following simplifying assumptions are introduced: (1) the distribution N_e is assumed to be spherically symmetrical, i.e., $N_e = N_e(r)$; (2) the orbits of the emitter and receiver lie in the same plane; (3) the approximation of geometrical optics is carried out for any trajectories of the probing beams (the fraction is assumed to be negligibly small); (4) the regular ionosphere contribution to the magnitude of the phase shift is evaluated integrally. It is shown that in this case the problem of determining $N_e(r)$ is single-valued and reduces to an inverse problem in potential theory. 8 ref. L. D.

1/1

- 10 -

USSR

UDC 612.273+612.018

SIMANOVSKIY, L. N., KRASNOVSKAYA, I. A., PROZOROVSKAYA, M. P., and
TAVROVSKAYA, T. V., Laboratory for the Study of the Resistance of the Organism,
Laboratory of Endocrinology, and Laboratory of the Development of Adaptive-
Trophic Functions of the Nervous System, Institute of Evolutionary Physiology
and Biochemistry imeni I. N. Sechenov, Academy of Sciences USSR, Leningrad

"Changes in the Neuroendocrine System in White Rats During Adaptation to
Hypoxia"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 5,
1973, pp 828-836

Abstract: Tests were performed on rats exposed (in a barochamber) to a
simulated altitude of 2,000 to 7,600 m for up to 3 months. Groups of animals
were sacrificed at intervals and tissue samples collected for analysis. Mor-
phological changes concerning cytoplasm, nuclei, and vascularization proceeded
in two phases, giving rise to corresponding functional alterations. In the
initial days of hypoxia, a certain activation of the hypothalamic-neurohypo-
physeal system (HNHS), adenohypophysis, and the thyroid gland was observed.
From the 14-20th day on, synthesis of HNHS hormones was reduced, though these
hormones were readily released from the neurohypophysis into blood. Similarly,

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-USSR

SIMANOVSKIY, L. N., et al., Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov,
Vol 59, No 5, 1973, pp 828-836

from the 30th to the 90th day, production of the TSH in the adenohypophysis and the activity of the thyroid gland progressively decreased. On the other hand, concentration of catecholamines and insulin in blood plasma and utilization of these hormones in tissues were increased throughout the duration of the hypoxia. The concluding paragraph states that the observed changes are significant and will be discussed in a separate article.

2/2

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1/2 027
UNCLASSIFIED
TITLE--RADIATION OPTICAL PHENOMENA IN CALCIUM FLUORIDE, RARE, EARTH
FLUORIDE CRYSTALS -U-
AUTHOR--(03)-VAKHIDOV, SH.A., KAIPOV, B., TAVSHUNSKIY, G.A. T
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK UZB. SSR, SER. FIZ., MAT. NAUK 1970, 14(2), 73-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--RARE EARTH COMPOUND, FLUORIDE, CRYSTAL, GAMMA LUMINESCENCE,
EUROPIUM COMPOUND, HOLMIUM COMPOUND, CALCIUM COMPOUND, OPTIC PROPERTY,
VISIBLE LIGHT RADIATION, COBALT ISOTOPE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--2000/1614
CIRC ACCESSION NO--AP0125236
STEP NO--UR/0166/70/014/002/0073/0077
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125236
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE GAMMA,LUMINESCENCE OF CAF SUB2
ERF SUB3 AND CAF SUB2, HOF SUB3, EXCITED BY PRIME60 CO, WAS INVESTIGATED
AT 77-480DEGREESK. AT LOW TEMPS., THE LUMINESCENCE INCREASES WITH
INCREASING ACTIVATOR CONC.N., DECREASING WITH HIGHER CONCNS. AT HIGH
TEMPS. THE GAMMA,LUMINESCENCE IS ASCRIBED BASICALLY TO ER
PRIME3POSITIVE AND HO PRIME3POSITIVE IONS, WHICH HAVE NO LOCAL CHARGE
COMPENSATORS. THE MECHANISM IS CONFIRMED BY EXPTL. DATA ON THE
GAMMA,LUMINESCENCE OF CAF SUB2NEGATIVE EUF SUB3. FACILITY:
INST. YAD. FIZ., TASHKENT, USSR.

UNCLASSIFIED

USSR

TAY, M. L.

UDC: 519.217

"On Markov Processes With Discontinuous Coefficients of Drift and Diffusion"
V sb. Nelineyn. i optimal'n. sistemy (Nonlinear and Optimum Systems--
collection of works). Moscow, "Nauka", 1971, pp 399-405 (from RZh-Kibernetika,
No 11, Nov 71, Abstract No 11V115)

Translation: The Fokker-Planck equation is derived for the probability
density of transition of an n -dimensional Markov process whose coefficients
of drift and diffusion undergo first-order discontinuities on surfaces
 S_1, \dots, S_m . The resultant equation is used for finding the probability density
of transition of Markov processes described by systems of stochastic dif-
ferential equations with piecewise-continuous coefficients. It is shown
that this problem can be reduced to finding the solution of $2m$ Fredholm's
equations of the first kind. B. Levit.

1/1

- 15 -

USSR

UDC: 621.373.42(088.8)

TAYBERG, N. O., SULIM, V. A., FEYNBERG, S. Ya.

"A Self-Excited Harmonic Signal Oscillator"

USSR Author's Certificate No 282439, filed 12 May 68, published 11 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D341 P)

Translation: This Author's Certificate introduces a self-excited harmonic signal oscillator in a three-point circuit based on a vacuum tube or semiconductor device. The oscillator contains a tank circuit with electronic frequency tuning by connecting a varicap in the tank. The varicap is connected in turn to a source of controlling voltage. To reduce the nonlinearity of frequency response with tuning over a wide range, the oscillator is equipped with an additional varicap which is connected through a threshold semiconductor diode to the source of controlling voltage, and through a resistive voltage divider to a source of DC voltage which blocks the threshold diode in the controlling voltage circuit. Two illustrations.

V. P.

1/1

USSR

UDC: 621.396.621.55:621.374.33(088.8)

TAYBERG, N. O., SULIM, V. A., FEYNBERG, S. Ya.

"A Transistorized Time Discriminator"

USSR Author's Certificate No 270796, filed 12 May 68, published 11 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2D53 P)

Translation: This Author's Certificate introduces a transistorized time discriminator of a periodic pulse signal. The unit contains two identical conversion channels with detector stages, diode-regenerative comparators and flip-flops connected in each of them. To increase the slope and improve the linearity of the discrimination characteristic, a selecting stage is included in each discriminator channel, and a pulse-duration converter is connected to the output of this selecting stage. The outputs of the channels are connected to an output mixer -- a device which shapes pulses of normalized amplitude; the polarity of these pulses determines the sign, and their duration determines the magnitude of the time mismatch.

1/1

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POWER MECHANICS

50: JPRS 55466
17 APR 72

THE USE OF RESISTANCE STRAIN GAUGES FOR MEASURING THE TORQUE AND THRUST OF MARINE ENGINE INSTALLATIONS WITH TURBINE-GEAR DRIVES

Article by Yu. Ye. Glazov, S. Ya. ~~Tikhonov~~ ^{Chernomir} ~~Moscow~~ ^{Vladimir} ~~Ukrainian~~ ^{Russian}, 1971, pp 140-152

Control of such values as torque and the thrust of the propellers plays an important role in modern shipbuilding with its great trend toward increasing speeds and higher efficiency.

The given question is the focus of much attention, both in our country and abroad. There are several methods of measuring the torque and thrust on the shafts of marine engines, based on optical, inductive, electro-mechanical, magnetic and other means of determining deformations and stresses [1-7]. Not a single one of them, however, affords measurements and results of sufficiently high accuracy. In this connection there is presently no consensus concerning the practicability of one of these methods over the others.

Extensometric measurement systems also have not gained wide acceptance, basically because of unsatisfactory operation of brush terminals, instability of the amplifier and difficulties related to measuring complex stress states of shafts.

Described below is an extensometric measurement system and method of calibrating shafts that improve the accuracy of measurements of the torque and thrust of marine propulsion systems.

The basic elements of the metering circuit (Figure 1) are the strain bridge TM, current pickup device I, power and balance unit EM, amplifier TV, recorder PT and stabilizer CT.

Strain bridges. A complete bridge, consisting of wire resistance gauges attached to the shaft, converts mechanical stresses to an electric signal. For measuring thrust forces strain gauges are glued to the shaft along the generatrix of the latter and perpendicular to it. The former are the working gauges and the latter are used for thermocompensation of

50: JPRS 55446
17 MAR 72

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LEVEL OF LONGITUDINAL

Vibrations in the hulls of ships and at longitudinal vibrations. Russian, 1971, pp 156-145.

Evaluation of Possibilities for these purposes.

will determine the possible vibration dampers for the shafts.

-50-

Acc. Nr: **AP0040324**

Ref. Code: **UR 0481**

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya,
1970, Nr / , pp 67-71

ON THE INFLUENCE OF LYSTHENON
ON THE CARDIO-VASCULAR SYSTEM

V. V. Tavevskiy, L. I. Kozlova, A. S. Nikiforova

In 89 experiments on dogs the authors studied side effects of the relaxant on the cardio-vascular system using plethysmography and sphygmography. A marked vasodilatory action of lysthenon on the peripheral blood vessels and considerable stimulating effect on the heart were recorded. Effects are constant, transient and depend on the dose and the rate of intravenous administration.

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Acc. Nr.: AP0029333

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970 / Vol 15, Nr 1, pp 14-17

ISOLATION AND IDENTIFICATION OF ANTIBIOTIC 6604-4
Lokshin, G.B.; Tayg, M.M.; Kuzovkov, A.D.;
Solov'yeva, N.K.

National Institute for Antibiotics, Moscow.

An actinomycetous culture 6604-4 isolated from Rumanian soils is described. It is classified as Act. roseolilacinus sp. nov. An antibiotic isolated from the culture fluid of the actinomyce was identified with actiliazic acid by its chemical, spectral and mass-spectrometric analyses.

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REEL/FRAME

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USSR

UDC 576.858.75.094

SIDORENKO, O. V., KORNYUSHENKO, N. P., ~~TAYKOVA, N. V.~~, SINEL'NIK, N. A.,
and YACHNIK, O. S., Kiev State University, Kiev

"Biological Properties and Ultrastructure of the Influenza Virus A₂ (Hong Kong) 68"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 4, Jul/Aug 71, pp 466-472

Abstract: A study conducted on influenza virus of strain A₂ (Hong Kong) 68, received from the Influenza Institute, Academy of Medical Sciences USSR and passaged through chicken embryos, showed that the population of virus particles exhibited differences with respect to morphology, ultrastructure, and biological properties. Chromatography on DEAE-Sephadex-A-50 indicated that the virus strain contained a fraction of particles that were not adsorbed in the column. Particles of this fraction were also not adsorbed on chick embryos. Comparison with other strains showed that only the strain A₂ (Hong Kong) 68 contained a fraction that was not adsorbed in the column. Further passages through chick embryos did not change the relative content of this fraction. Elution with NaCl solutions of increasing concentration yielded three virus fractions with decreasing particle size: 1) 2800-7000 Å (0.1 M NaCl), 2) 1400-2100 Å (0.5 M NaCl), and 3) 600-800 Å (1.0 M NaCl). The

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USSR

UDC 576.858.4

TAYKOVA, N. V.; SYDORENKO, O. V.; KORNYUSHENKO, N. P.; RUDENKO, A. V.; Kiev State University

"Fractionation of Influenza Virus Type A by Chromatography on DEAE Sephadex A-50"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 3, May/Jun 71, pp 334-338

Abstract: The effectiveness of the chromatographic method of fractionation of influenza virus type A on DEAE Sephadex A-50 was tested during purification of the following strains of the virus: laboratory type APR-8, A₂(Singapore)57, A₂(England)57, A₂(Lenin-grad)67, and A₂(Hong Kong)68. Virus was obtained by infecting 10-day old chick embryos, incubating for 48 hours at 34°C, and then extracting the allantoic fluid. The chromatographic fractionation of virus-containing fluid was carried out on DEAE Sephadex type A-50 in chloride form. The Sephadex was washed on filter paper with 0.5 M hydrochloric acid and water and then

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USSR

TAYKOVA, N. V., et al, Mikrobiologicheskii Zhurnal, Vol 33,
No 3, May/Jun 71, pp 334-338

sodium hydroxide with water, suspended in 1/15 phosphate buffer pH 7.4, and poured into a test tube in a quantity necessary for virus purification. The allantoic fluid containing the virus, after centrifugation at 2,500 rpm for a period of 30 min., was added to the adsorbent-containing column; the column contents were then washed with 1/15 M phosphate buffer. Elution of the adsorbed virus was carried out in stages with the use of 0.1-1.0 M solution of sodium chloride in the same buffer. The purity of the virus was determined by content of proteins and nucleic acids in the eluate. On the basis of the obtained data, the method of chromatographic fractionation of viruses on DEAE-Sephadex is recommended for use as one of the methods for purification of influenza virus type A. Under such purification conditions the behavior of each of the strains is specific and may serve as a criterion of the strain characteristics of influenza viruses. Correlation between the chromatographic behavior of influenza viruses, their capacity for adsorption on chick erythrocytes,

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USSR

TAYKOVA, N. V., et al, Mikrobiologicheskiy Zhurnal, Vol 33,
No 3, May/Jun 71, pp 334-338

and their relation to inhibitors, depending on the structural
characteristics of the supercapsid of the viruses, has been
established.

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USSR

YAKUBOVA, N., TAYMETOV, K.

UDC 51:801

"Automatic Generation of Nominal Word Combinations"

V sb. Vopr. kibernetiki (Problems of Cybernetics -- collection of works),
vyp. 46, Tashkent, 1971 (1972), pp 201-205 (from RZh-Kibernetika, No 7, Jul 72,
Abstract No 7V676)

Translation: An effort is made to propose NS-rules describing the simplest
type of name groups in the Uzbek language. The article contains obscurities
and linguistic errors.

- END -

10845

CSO: 1843-W

1/1

USSR

TAYTS, A. A.
Engineer

UDC: [621.311.4:681.14]:061.3
Candidate Technical Sciences, and ROSHCENYA, A. F.

"Experiences in the Application of Computer Techniques to Power Systems, Municipal Power Systems, and Industrial Plant Power Systems"

Moscow, Elektricheskiye Stantsii, No. 5, 1971, pp 90-92

Abstract: This article is a report on the Scientific-Technical Conference held in Moscow from the 8th to the 10th of April, 1970, on the subject of the title given above. The Conference was organized by the Moscow Board of the Scientific-Technical Society of the Power and Electrical Engineering Industry in cooperation with the Moscow House of Propaganda imeni F. E. Dzerzhinskiy and the Moscow Order of Lenin Power Institute. More than 400 people from 40 cities of the USSR participated, and more than 60 reports were read. Reports were presented on the development of power system theory through advances in computer techniques, by Prof. V. A. Venikov, the optimization of power systems, by Prof. I. M. Markovich, the application of computers to the study of steady-state power system operation and power grids, etc. It was noted, in one paper, that the Single Power System for the European Part of the USSR has become so complex that special attention has recently been given to using computers for solving the problem of optimizing

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TAYTS, A. A., et al, Elektricheskiye Stantsii, No. 5, 1971, pp 90-92

24-hour operation. The Conference noted the need for improving the preparation of engineering cadres in the theory of electric power programming and in methods of computer techniques, and a resolution was adopted to request the Ministry of Medium and Advanced Special Education to supply better digital and analog equipment to the VUZ student laboratories.

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USSR

UDC: 620.197.5

LYUBLINSKIY, YE. YA., BIBIKOV, N. N., TAYTS, A. Yu., and SUBBOTINA, M. S.,
Central Scientific-Research Institute of Shipbuilding Technology

"Selection of Cast Magnesium Protector Alloys"

Moscow, Zashchita Metallov, "Nauka", Vol 7, No 3, 1971, pp 322-326

Abstract: The authors determine the optimal composition of a magnesium protector alloy. The tests were conducted in calm, artificial sea water of average ocean composition at 18-20 degrees. A table is given which shows that commercially pure alloys have similar electrochemical characteristics. Of the high-purity alloys, the M14vch alloy appears to be the qualitatively best protector material. The following are its composition and electrochemical characteristics obtained at a current density of 5 a/m^2 and a test duration of 480 hr: alloying elements by percent, 519 Al, 2.4 Zn, 0.40 Mn, and 0.0 Ce; impurities by percent, 0.0035 Fe, 0.0005 Cu, and 0.0002 Ni; potential during polarization in mv, -1205; and current efficiency by percent, 60.0. The studies show M14vch to be the best protector material if it does not contain more than 0.001 Ni, 0.0045 Fe, and 0.005 Cu. It dissolves within the 3-10 a/m^2 current density interval with a current efficiency of 57.5-62.0% at a potential of -1225-1205 mv. Original article: one table, two formulas, one figure, and seven bibliographic entries.

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USSR

UDC 669.721'71'5.018.9

VYAZNER, M. YA., TAYTS, A. YU., and MORACHEVSKIY, A. G.

"Equilibrium of Liquid-Vapor Over Binary Melts of Magnesium-Aluminum and Magnesium-Zinc"

V. sb. Vakuumn. protsessy v tsvetn. metallurgii (Vacuum Processes in Non-ferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, pp 120-124 (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract no 6G186)

Translation of Abstract: The equilibrium of liquid-vapor in the systems Mg with Zn and Mg with Al was studied and the possibility was shown of the distribution of the liquid melt on pure components by means of fractional distillation (Five illustrations; 20 bibliographic entries).

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USSR

RAZMYSLOV, V. I., and TAYTS, A. YU.

UDC 669.721'884.018.9

"Vacuum-Thermal Process for the Production of Magnesium Lithium Alloys"

V. sb. Vakuumn. protsessy v tsvetn. metallurgii (Vacuum Processes in Non-ferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, pp 192-194 (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract No 6G187)

Translation of Abstract: Results are given of the vacuum thermal process for the production of sufficiently pure binary alloy of Mg with Li or an alloy directly from oxide feed material. The solid phase reduction of Mg and Li from oxide compounds with Al and FeSi impurities was studied (one illustration; 7 bibliographic entries)

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USSR

UDC 669.721.5.018.29

TAYTS, A. Yu.

"Use of Magnesium and Its Alloys in Industry"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 18-25. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 1689 by the author).

Translation: A description is presented of the properties of Mg and its alloys which have resulted in its broad application in the national economy.

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USSR

UDC 669.721.4

TAYTS, A. Yu., PODZOROV, B. N., KHABAROVA, N. P.

"State and Prospects for Development of Techniques of Refining and Casting of Magnesium and its Alloys"

Tr. Vses. N-i. i Projektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 56-62. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G200 by the authors).

Translation: The problem of development and introduction of a technology for refining primary Mg in new, highly productive continuous apparatus is studied. The experience of the industrial operation of continuous Mg refining furnaces has shown their technical and economic effectiveness. A plan has been developed for a highly productive crucibleless furnace for the production of Mg alloys. Continuous furnaces and highly productive crucibleless apparatus for the production of alloys may be one of the main links in a continuous line for production of commercial Mg. At the present time, a plan has been developed for mechanized continuous line processing of ingots. The introduction of this line to production will solve the problem of complete mechanization and automation of the production of refined Mg and its alloys. 1 table, 5 biblio refs.

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USSR

UDC 669.721.725.018.9

TAYTS, A. Yu., ALEKSANDROVSKIY, S. V., ABROSINOVA, Ye. N., PETROVA, F. A.,
KHABAROVA, N. P.

"Study of the Process of Production of Magnesium Alloy, Alloyed With Beryllium"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works
of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium
and Electrode Industry], 1970, No. 72, pp. 144-149. (Translated from Referativnyy
Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G201 by the authors).

Translation: A technology is described for production of a casting alloy in the
Mg-Al-Zn-Mn system (type Mg55) with Be added. Due to the addition of Be, the
oxidation of the alloy during melting and pouring is sharply reduced, allowing a
decrease in the consumption of S and flux, and the losses of alloy with the
bottom sediment are also decreased. Due to the poor solubility of Be in Mg,
a 2 or 3 times excess quantity must be introduced to the charge. The influence
of slight ($5 \cdot 10^{-4}$ - $15 \cdot 10^{-4}$ %) additions of Be on the structure, and mechanical and
corrosion properties of the alloys is studied. The introduction of up to 0.008%
Be to the Mg alloy does not result in significant enlargement of the grain,
the mechanical properties are not reduced, and the corrosion properties are
even increased. The production of Mg alloy with addition of Be has been under-
taken on the commercial scale. 3 figs; 1 table; 5 biblio refs.

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USSR

UDC 534.647:621.83:389

TAYTS, B. A., TSEYTLIN, S. I., and SHUMILIN, V. V.

"Metrological Problems in the Seismic Method of Gauging Nonuniformity and Inconsistency in the Motion of Elements of Kinematic Chains"

Khar'kov, Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972 -- sb. (Ukrainian Republic Scientific and Technological Conference Honoring the 50th Anniversary of the Ukrainian SSR's Metrological Service, 1972 -- Collection of Works), 1972, pp 178-179 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32. 521)

Translation: The authors have worked out two models of a device for measuring nonuniformity and inconsistency in the rotation of a table and a tool. The set consists of two seismic angular oscillators fitted with individual amplifying channels, an electronic adder with scale multiplication of the components according to the gear ratio, and a three-channel recorder. Differential-transformer inverters are used in the sensors. In order to calibrate the seismic device, the authors developed a calibrator consisting of a platform with spring suspension that makes angular vibrations when acted upon by a pair of electrodynamic oscillators. The induced vibrations are controlled by a

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TAYTS, B. A., et al., Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972, pp 178-179

precision induction-transformer displacement inverter. The authors provide for certification of the control equipment in the statistical mode by using standard linear and angular measures, as well as spring-actuated contact comparator heads in the lower part of the spectrum. Identity of the amplitude and phase characteristics of both measuring circuits (including the sensors) affects the adder error, which is quite substantial in the frequency band close to the sensor's natural frequency, where these diagrams are steepest. Dynamic errors in the recorder are primarily caused by its amplitude-frequency characteristics. A detailed investigation of the metrological problems involved in the seismic method is of pressing importance.

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- 62 -

USSR

UDC: 621.362.2

PETROV, G. S., TAYTS, D. A., CHERNYAVSKIY, V. V., Special Design Office of
Semiconductor Devices

"A Method of Thermostabilization"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 11, Apr 72, Author's Certificate No 333645, Division G, H, filed 1 Apr
70, published 21 Mar 72, p 213

Translation: This Author's Certificate introduces a method of thermosta-
bilization of an object by means of a thermopile located inside a solid
and having a nonstationary heat source. As a distinguishing feature of
the patent, in order to maintain the temperature of the heat-sensitive
section constant, a thermal wave is generated which is directed toward the
heat-sensing section in such a manner that the thermal wave arrives in the
heat-controlled area in antiphase with respect to the heat wave of the non-
stationary source.

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USSR

UDC 612.822.1:612.015:612.018

TAYTS, M. Yu., Institute of Physiology of the Academy of Sciences Belorussian SSR

"Compensatory Mechanism of Metabolic Shifts in the Central Nervous System Under Stress"

Minsk, Doklady Akademii Nauk BSSR, Vol 14, No 10, 1970, pp 953-955

Abstract: When the brain is subjected to stress, metabolic shifts leading to the accumulation of ammonia, lactic and pyruvic acids, to inhibition of oxidative phosphorylation, and to reduction in content of glycogen, creatine phosphate, adenosine triphosphate, etc., occur in the brain. The administration of corticosteroids reduces the intensity of redox processes in the central nervous system, which results in the beginning of inhibition in the utilization of substrates of the tricarboxylic acid cycle. The presence of a definite correspondence between the activity of the dehydrogenases and the ammonia content in the brain during stress, on the one hand, and adrenalectomy, on the other, suggests that these processes are interdependent.

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1/2 019
UNCLASSIFIED
TITLE--RUENTGEN RADIOLOGICAL EXAMINATION OF DIFFUSE LIVER LESIONS -U-
AUTHOR--(03)--NOSOVA, YE.T., TAYTS, N.S., LUKASH, L.K.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 84-87
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GOLD ISOTOPE, LIVER, HEPATITIS, CIRRHOSIS, RADIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1756
CIRC ACCESSION NO--AP0129124
STEP NO--UR/0475/70/000/006/0084/0087
UNCLASSIFIED

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CIRC ACCESSION NO--AP0129124

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE REPORTED OF THE USE OF
CHOLEGRAPHY AND AU PRIME196 LIVER SCANNING IN 73 PATIENTS SUFFERING OF
CHRONIC HEPATITIS AND LIVER CIRRHOSIS. IT IS CONCLUDED THAT SUCH
COMPLEX EXAMINATION WIDENS THE POSSIBILITIES OF A MORE THOROUGH STUDY OF
LIVER PATHOLOGY.
PITANIYA AMN SSSR. FACILITY: OTDEL LECHEBNUGO PITANIYA INSTITUTA

UNCLASSIFIED

UDC 51:330.115

ROMANOV, I. M., TAYURSKIY, A. G., TAYURSKAYA, G. V.

"Probability of Servicing of Signals of Heterogeneous Flows with Equal Rights"

Priem I Obrabotka Inform. V Solzhn. Inform. Sistemakh, [Reception and Processing of Information in Complex Information Systems--Collection of Works], No 2, KAZAN' University Press, 1970, pp 20-23, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V573).

No Abstract.

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USSR

UDC 621.391:519.152

ROMANOV, I. M., TAYURSKIY, A. G., TAYURSKAYA, G. V.

"Probability of Servicing in a Two-Channel System With Inter-connections"

Kazan', V sb. Priyem i obrabotka inform. v strukturno-slozhn. inform. sistemakh (Receiving and Processing of Information in Structurally-Complex Information Systems -- collection of works). No 1, Kazan' University, 1969, pp 36-41 (from RZh -- Elektro-svyaz', No 2, Feb 70, Abstract No 2.64.11)

Abstract: A process is considered for servicing a location in a complex system which consists of two sets of receiving apparatus tuned to different frequencies. A flow of signals of a specific intensity enters each set. The feedback between the two sets operates so that servicing in one set does not influence servicing in the other, but incapacitation of one immediately produces incapacitation of the other. The probability of servicing in such a system is determined. 3 ref. V.N.

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USSR

UDC 51:330.115

ROMANOV, I. M., TAYURSKIY, A. G., TAYURSKAYA, G. V.

"Probability of Servicing of Signals of Heterogeneous Flows with Equal Rights"

Priem I Obrabotka Inform. V Solzhn. Inform. Sistemakh, [Reception and Processing of Information in Complex Information Systems--Collection of Works], No 2, KAZAN' University Press, 1970, pp 20-23, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V573).

No Abstract.

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USSR

UDC 541.63:543.422.25:547.879

SAMITOV, Yu. Yu., TAZEYEVA, N. K., CHADAYEVA, N. A., and KAMAY, G. Kh.
(deceased), Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov,
Academy of Sciences USSR, Kazan'

"The Configuration and Conformation of Substituted 1,3,2-Dioxaarsenanes"
Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 4, Apr 73, pp 457-463

Abstract: On the basis of paramagnetic resonance spectra of high resolution, the configuration and conformation of ten 1,3,2-dioxaarsenanes substituted in positions 2,4, and 5 were studied. The data obtained indicated inversion of the screening constants of protons in positions 4,6, and 5 and of methyls in position 5, an axial location of the bonds As-Cl and As-OR, an equatorial location of 4-Me, and a chair conformation of the six-membered heterocycle. The anisotropies of diamagnetic susceptibility ($\Delta \chi_{As-O} = 4.67 \times 10^{-6}$ and $\Delta \chi_{As-Cl} = -5.13 \times 10^{-6} \text{ cm}^3 \cdot \text{mole}^{-1}$ in the dipole approximation; $\Delta \chi_{As-O} = 0.9 \times 10^{-6}$ and $\Delta \chi_{As-Cl} = -6.8 \times 10^{-6} \text{ cm}^3 \cdot \text{mole}^{-1}$ in the non-dipole approximation) were estimated for the first time. By applying the R-factor method, a cyclic torsion angle $\psi = 58^\circ$ was found for 2-chloro-1,3,2-dioxaarsenane. A study of the specific influence on the position of the resonance lines of the

USSR

SAMITOV, Yu. Yu., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 4,
Apr 73, pp 457-463

aromatic solvent on transition from CCl_4 to PhH confirmed the conclusions made
on the conformation of the ring and of the substituents in it.

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- 32 -

TAZHIBAYEV, B. B.

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COMPUTERS
(COLL)

71. USSR

UDC 602.513.5:681.3

BALAFANOV, Ye., KACHURINA, O. K., KIRDYASHKIN, A. P., KUZNEKOV, B., LYAN, E. N.,
USTINOV, V. A., TAZHIBAYEV, B. B., TRET'YAKOV, V. V., and FREDOROV, V. V.

"The MS-1 Information Retrieval System"

Tr. In-ta Mat. i Mekh. AN KazSSR (Works of the Institute of Mathematics and
Mechanics of the Academy of Sciences, Kazakh SSR), No 2, 1970, pp 293-302 (from
R-2h -- Informatika, No 4, Apr 71, Abstract No 71.4.169 (71R--1250))

Translation: An approach to the creation of a system for collection, storage, and
processing of technological information from a controlled process is described. One
variant of an information retrieval system is presented. It includes technical
resources, the organization of information arrays in computer storage, and a complex
of programs for processing information.

USSR

UDC 615.37:576.858.095.383].015

TAZULAKHOVA, E. B., and YERSHOV, F. I., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Some Aspects of Interferon Activity"

Moscow, Antibiotiki, Vol 17, No 10, 1972, pp 940-945

Abstract: Resistance to Venezuelan equine encephalomyelitis virus developed by chick embryo fibroblasts in response to administration of homologous interferon depends on the time and dose of the virus and interferon added. On the average, resistance begins to develop 1-2 hrs after administration of interferon, reaches a maximum in 5-6 hrs, and remains constant as long as interferon is present in the medium in ample concentration. The best results are achieved by adding interferon prior to inoculation. Infection is not prevented if interferon is administered 2-3 hrs after inoculation. Removal of interferon from the medium is followed by a fall in resistance in 6-9 hrs, regardless of the inoculation dose and the initial concentration of interferon. This period coincides with the functional period of the antiviral protein.

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USSR

UDC 547.341

MOSKVA, V. V., ISMAILOV, V. M., ZYKOVA, T. V., and TAZUMOV, A. I., Kazan'
Institute of Chemical Technology imeni S. M. Kirov

"Substituted Vinylphosphonic Acid Derivatives. IX. Study of the Possibility
of Thione-thiol Isomerization of β -Alkoxyvinylthiophosphonic Acid Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1676-1679

Abstract: In an earlier article the authors reported that they found no thione-thiol isomerization in the synthesis of β -alkoxyvinylthionophosphonic acid esters. The present article gives additional data, on the basis of which a thione structure is assigned to the synthesized esters. The possibility of thione-thiol isomerization was studied in the esters themselves, as well as products of their subsequent conversions. For this purpose the diethyl ester of β -ethoxyvinylthionophosphonic acid was compared with its thiol isomer the O,S-diethyl ester of β -ethoxyvinylphosphonic acid, obtained by parallel synthesis. The conversion products of these esters were also compared. The results, as well as IR and NMR spectral and thin-layer chromatography data confirm the resistance of the reaction products to thione-thiol isomerization, at least under the conditions of their synthesis and identification.

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UNCLASSIFIED
TITLE--WATER TREATMENT BY A MAGNETIC FIELD IN THERMAL POWER ENGINEERING
-U-
AUTHOR--(02)-TEBENIKHIN, YE.F., GUSEV, B.T.
COUNTRY OF INFO--USSR
SOURCE--WATER TREATMENT BY A MAGNETIC FIELD IN THERMAL POWER ENGINEERING
(OBRABOTKA VODY MAGNITNYM POLEM V TEPLOENERGETIKE) MOSCOW, ENERGIYA,
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, ENERGY CONVERSION
(NON-PROPULSIVE)
TOPIC TAGS--MONOGRAPH, WATER PURIFICATION, WATER PURIFICATION EQUIPMENT,
THERMOELECTRIC POWER, MAGNETIC METHOD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3009/0308
CIRC ACCESSION NO--AM0139130
STEP NO--UR/0000/70/000/000/0001/0144
UNCLASSIFIED

019
CIRC ACCESSION NO--AM0139130
ABSTRACT/EXTRACT--(U) GP-0-
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PROCESSING DATE--04DEC70
ABSTRACT. TABLE OF CONTENTS: PREFACE 3.
INTRODUCTION 5. CHAPTER I CERTAIN THEORETICAL CONCEPTS ON THE
MECHANISM OF ACTION OF THE MAGNETIC FIELD IN WATER TREATMENT 10. II
CONDITIONS IN THE USE OF A MAGNETIC FIELD FOR WATER TREATMENT 43. III
REMOVAL OF SLIME IN MAGNETIC TREATMENT OF WATER 68. IV INDUSTRIAL
CONTROL OF MAGNETIC TREATMENT OF WATER 79. V APPARATUS FOR MAGNETIC
TREATMENT OF WATER 91. VI METHODS IN CALCULATION OF APPARATUS FOR
MAGNETIC TREATMENT OF WATER 117. VII FUTURE USES OF MAGNETIC
TREATMENT OF WATER IN THERMAL POWER ENGINEERING 129. BIBLIOGRAPHY
142. THE BOOK DEALS WITH CERTAIN THEORETICAL AND TECHNOLOGICAL
PROBLEMS IN WATER TREATMENT BY A MAGNETIC FIELD FOR PREVENTION OF BOILER
SCALE. THE BOOK CONTAINS A BIBLIOGRAPHIC REVIEW, RESULTS OF
EXPERIMENTAL INVESTIGATIONS OF THE AUTHORS AND DATA ON THE USE OF
MAGNETIC APPARATUS. IT WAS WRITTEN FOR A WIDE CIRCLE OF ENGINEERING
TECHNICAL PERSONNEL AND SCIENTISTS IN THE FIELD OF WATER TREATMENT, AS
WELL AS STUDENTS AND POST GRADUATE STUDENTS.

UNCLASSIFIED

USSR

Physiology

UDC 616.717.611.424)-092.9:612.014.477-063

TEBENCY, M. YE., Chair of Normal Anatomy, First Leningrad Medical Institute
Imeni Academician I. P. Pavlov

"Effects of Accelerations on the Development of Collateral Lymph Channels in
the Thoracic Extremity of the Rabbit"

Leningrad, Arkhiv Anatomii Gistologii i Embriologii, Vol 60, No 4, Apr 71,
pp 90-97

Abstract: Recovery of the lymph system was studied on 54 rabbits after tran-
section of afferent lymph channels in the thoracic limbs and maximum tolerable
centrifugation (9.6 Gs). Exposure to acceleration induced a more rapid develop-
ment of a larger number of collaterals than that observed in noncentrifuged
controls. The collaterals were unevenly enlarged and circuitous; lymph nodes
were also enlarged. Recovery of the severed lymph vessels was delayed, and
the anastomoses which formed between them were narrow and functionally ineffec-
tive. As a result, the collaterals were draining the lymph for up to 6 months.
These changes were more pronounced after acceleration in the head-pelvis than
in the pelvis-head direction.

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033

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--BLOOD SERUM SEROTONINE CONTENT AND ITS METABOLISM IN THE ACUTE
STAGE OF CEREBRAL CIRCULATORY DISORDERS -U-
AUTHOR--(02)--SMIRNOV, V.A., TEBLOVEV, I.K.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 59-61

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD SERUM, SEROTONIN, METABOLISM, BRAIN, CIRCULATORY SYSTEM
DISEASE, URINE, ATHEROSCLEROSIS, HYPERTENSION

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STEP NO--UR/0475/70/000/004/0059/0061

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212 033
CIRC ACCESSION NO--AP0129064
ABSTRACT/EXTRACT--(U) GP-0-
UNCLASSIFIED
PROCESSING DATE--30OCT70
ABSTRACT. THE MAJORITY OF PATIENTS WITH
DIFFERENT TYPES OF CEREBRAL CIRCULATORY DISORDERS SHOWED AN INCREASE OF
BLOOD SEROTONINE. MORE SEVERE DEGREES OF CEREBRAL CIRCULATORY DISORDERS
WERE ACCOMPANIED BY MORE MARKED QUANTITATIVE CHANGES OF THE BLOOD SERUM
SEROTONINE CONTENT. ALMOST 50PERCENT OF PATIENTS WITH CEREBRAL
CIRCULATORY DISORDERS SHOWED CHANGES OF URINARY 5-OXYINDOLEACETIC ACID.
SHARP CHANGES OF THE ABOVE INDICES IN PATIENTS WITH ATHEROSCLEROSIS AND
HYPERTENSIVE DISEASE SHOULD BE CONSIDERED IN THE PLAN OF PROPHYLAXIS OF
CEREBRAL CIRCULATORY CRISES.
FACILITY: MOSKOVSKOGO
MEDITSINSKOGO STOMATOLOGICHESKOGO INSTITUTA.

UNCLASSIFIED

Pharmacology and Toxicology

UDC 615.332 (Oleandomycinium).072

USSR

TEBYAKINA, A. E., DRUZHININA, E. N., SUVORKINA, D. V., National Institute for Antibiotics, Moscow

"Effect of the Presence of Oleandomycin in Triacetyloleandomycin on Determination of Biological Activity of Triacetyloleandomycin"

Moscow, Antibiotiki, Vol 15, No 1, Jan 70, pp 81-84

Abstract: (Authors' English-language summary modified) The presence of oleandomycin in triacetyloleandomycin (TAO) preparations had a marked effect on the biological activity of TAO as was determined by the agar-diffusion method using *Bac. mycoides* NV (resistant to tetracycline) as the test organism. An increase in effectiveness was also observed in dry mixtures of TAO with tetracycline during storage; this is attributed to the formation of oleandomycin in the dry mixture, oleandomycin being more diffusible in agar.

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Acc. Nr.: 40029430

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, PP 71-74

EFFECT OF OLEANDOMYCIN PRESENCE IN TRIACETYLOLEANDOMYCIN
ON DETERMINATION OF TRIACETYLOLEANDOMYCIN BIOLOGICAL ACTIVITY

A. Ye. Tebyakina, Ye. N. Druzhinina, D. V. Suvorkina

National Institute for Antibiotics, Moscow

Presence of oleandomycin in triacetyloleandomycin preparations had a marked effect on determination of triacetyloleandomycin biological activity by the agar-diffusion method using as the test-microbe Bac. mycoides NV resistant to tetracycline. An increase in the activity of triacetyloleandomycin in dry mixtures with tetracycline was observed during storage or preparation. The phenomenon may be attributed to formation of oleandomycin with a different nature of diffusion to agar.

REEL/FRAME

19681028

USSR

UDC 629.124.791.07

POPOV, YU. N., TEGKAYEVA, T. KH., and FADYEV, O. V.

"Influence of the Shape of Icebreaker Contours Upon the Value of Ice Loads"

Leningrad, Ledovyye Kachertva Sudov (Ice Properties of Ships), Gidrometeoizdat, 1973, pp 79-87

Abstract: An analysis is made of the influence of the shape of icebreaker hull contours upon the value of ice loads. Formulas and graphs are presented, which illustrate the relationship of the value of the ice loads upon an icebreaker hull, including the structural components and the cladding, to the angle of inclination of the ribs, the completeness coefficient of the bow area of the waterline, and the length-to-beam ratio of the hull. It is shown that the shape of the hull contours affects to a considerable degree the value of the impact loads originating in the bow of the hull. 4 figures. 1 table. 2 references.

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1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--FORMATION OF RING SPHERULITES UNDER THE INFLUENCE OF PERIODIC
TEMPERATURE CHANGES -U-
AUTHOR--(02)-TEITELBAUM, B.YA., PALIKHOV, N.A.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(1), 3-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPHERULITE, POLYETHYLENE, ADIPATE, CRYSTAL GROWTH, MICROSCOPY
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PROXY REEL/FRA--1986/0256 STEP NO--UR/0460/70/012/001/0003/0004
CIRC ACCESSION NO--AP0102306
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USSR

UDC: 616-001.34-07:616.16-008.6

DZIZINSKIY, A. A. and TEKENEVA, T. I., Medical Institute, Sanitation Institute, Novosibirsk

"Capillary Permeability in Patients With Vibration Sickness"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1971, pp 43-45

Abstract: Capillary permeability, fibrinolysis, and heparin levels were investigated in 76 persons with stage 1 or stage 2 vibration sickness. Capillary permeability increased with the severity of the disease. Fibrinolytic activity increased in stage 1 and then decreased in stage 2 to the point of complete inhibition. Similarly, the heparin level rose in stage 1 and fell in stage 2. Regarding vibration as a "chronic stressor," the authors interpret the increased capillary permeability and activation of fibrinolysis in the initial stages of the disease as an adaptation mechanism. The subsequent decrease in fibrinolysis and heparin is apparently due to exhaustion of the enzyme systems resulting from impairment of neurohumoral regulation. The authors state in conclusion that their findings led them to administer heparin and iodine-containing preparations

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CIRC ACCESSION NO--AP0102306

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF RING SPHERULITES IN POLY(ETHYLENE ADIPATE) (I) MELTS WAS OBSD. BY POLARIZED LIGHT MICROSCOPY. THE RADIAL ORIENTATION TOWARDS THE RING CENTER OF THE CRYSTG. I WAS ALSO OBSD. THE CRYSTAL GROWTH RATE IS INVERSELY PROPORTIONAL TO THE HEAT OF CRYSTN. EVOLUTION AT THE PERIMETER OF GROWING CRYSTALS.

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002203230009-0"

USSR

UDC 621.373.826

GANDEL'MAN, I. L. SAPA, V. T., TEKHOV, YE. A., and SHPAK, M. T.

"Transient Generation of Organic Dye Solutions During Picosecond Optical Pumping"

V sb. Nelineyn. protsessy v optike (Nonlinear Processes in Optics -- collection of works), Vyp.2, Novosibirsk, 1972, pp 70-74 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 D148)

Translation: None.

USSR

USSR
ELECTRONICS
Amplifiers

UDC: 621.375.121:621.375.4

TEKSHEV, V. P.

"Concerning the Influence Which the Matching Circuit of a Tunnel Diode Microwave Amplifier has on its Amplitude and Phase Amplitude Response Characteristics"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 110, pp 137-143 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8D18)

Translation: It is shown that for a predetermined transfer constant, deviations of the characteristics of a tunnel diode amplifier from those taken as the standard can be varied by appropriate selection of the matching circuit; the absolute value of the transfer constant of the amplifier can be held close to the given magnitude at the cost of an increase in phase deviation. The deviation of amplifier characteristics when the capacitance varies is greater than when the conductance varies.
V. Ch.

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USSR

SHEFTEL', I., ~~TEKSTER-PROSKURYAKOVA, G.~~, LEYKINA, B.

"Posistors"

Moscow, Radio, No 3, March 1971, pp 55-56, 58

Abstract: The general characteristics of thermistors with positive temperature coefficients of resistance, called posistors, are discussed. The basic parameters of some Soviet-made posistors are presented and numerous possible applications of them are suggested. It is pointed out that the resistance of posistors depends not only on the temperature of the sample but also on the voltage applied to it. Means of controlling the temperature dependence of the resistance of the posistor by connecting posistors with line resistors or with thermistors with negative temperature coefficients of resistance are discussed. Static volt-ampere characteristics showing the dependence of the current passing through the posistor on the voltage applied to it under conditions of thermal equilibrium between the posistor and the environment are presented on a logarithmic scale. It is noted that these curves characterize the dependence of the posistor resistance on the power dissipated by it. It is pointed out that the numerous possibilities of using posistors are based

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